

IDOT Initiatives for Environmental Stewardship



Restored wetland at Grand Detour

51532692

Mission Statement: We provide safe, cost-effective transportation for Illinois in ways that enhance quality of life, promote economic prosperity, and demonstrate respect for our environment.

Guiding Principles: We will accomplish our mission while making the following principles the hallmark of our work - Safety, Integrity, Responsiveness, Quality, and Innovation.

In order to provide an awareness of what the department is doing to demonstrate respect for our environment, we are identifying environmental initiatives currently under way. Many of these initiatives are successful due to our partnerships with resource agencies, communities, and the general public.



Illinois Department
of Transportation

Statewide Habitat Surveys

Indiana Bat - Habitat surveys were taken to determine the habitat and behavior of Indiana bats, a federally endangered species, at critical times such as maternity. The species occur in riparian and adjacent upland woods.

During this study, IDOT specialists obtained important species data using mist nets (large nets made of very thin nylon thread) to capture bats at project sites and other sites. After capture, the bats were fitted with transmitters and released. Indiana bats were tracked for five years by the use of the transmitters. The results of this study proved that Indiana bats are faithful to an area and the habitat should be protected at critical times.

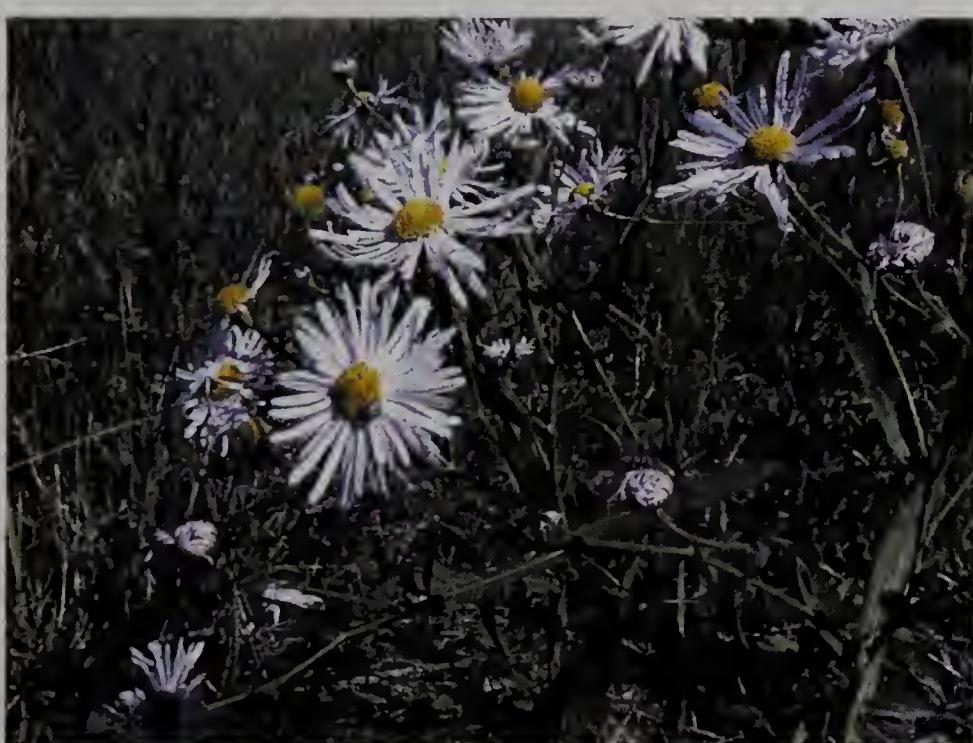


Illinois Chorus Frog - A 43-acre parcel of land was acquired by IDOT to protect and enhance the habitat of the state threatened Illinois chorus frog. The main threat to the species is draining and clearing sandy wetlands.

IDOT identified several potential project sites that would impact Illinois chorus frog habitat. The Illinois Natural History Survey (INHS) was hired to

conduct field surveys. Drift fence arrays were used to determine if the frog was present and breeding in this area. Drift fence arrays, although a labor intensive technique, provide a clear understanding of chorus frog movements within the habitat.

From this data, IDOT designed wetland mitigation to enhance the existing site. Trees were cut down and prairie vegetation was planted to restore the native sand prairie habitat for the Illinois chorus frog.



Decurrent False Aster - IDOT identified two proposed projects that would result in the incidental taking of decurrent false aster, a federal and state threatened plant species. IDOT worked with resource agencies to develop a biological assessment in accordance with Section 7 of the Endangered Species Act of 1973. The US Fish and Wildlife Service responded to the assessment and issued a Biological Opinion that included conservation recommendations for the benefit of the plant species.

IDOT is incorporating the recommendations into a Recovery and Monitoring Plan for decurrent false aster. Populations of the plant will be established on all suitable wetland mitigation sites within the project vicinity. A five-year monitoring plan will be

implemented to determine the stability or expansion of the newly established population, as well as for existing colonies.



Aquatic Macroinvertebrates Study

IDOT, in conjunction with the University of Illinois at Springfield, is studying the presence of aquatic macroinvertebrates to determine the hydroperiod (the pattern of water level rise and fall over time) of wetlands, as well as amphibian habitat quality. Macroinvertebrates include

- insects,
- hydracarina (true water mites),
- mollusks (clams, snails, mussels),
- crustaceans, and
- leeches.

These organisms have life stages that are very dependent on water, thus making them good indicators of wetland hydroperiods. Species compilations differ depending on the length of time water is present. Also, the presence of amphibians is an indicator of the quality of the wetland.

For this study, a range of wetland types was selected and species counts were taken at each site. From the data, the hydroperiod of wetlands will be determined, assisting in wetland delineations.



Atmospheric Dispersion Study of Deicing Salt Applied to Roads

IDOT, along with Illinois State Toll Highway Authority, contracted the Illinois State Water Survey (ISWS) to conduct a study of the emission, atmospheric transport, and deposition of deicing salt. In Illinois, sodium chloride (NaCl) is the most commonly used deicing material. Emission and deposition mechanisms include:

- being pushed to the roadside by highway clearing operations and by vehicular traffic
- salt spray raised by vehicles
- aerosols produced by vehicular traffic from dried salt deposits on the road surface

The goals of this study are to determine the dominant transport mechanisms and model development.

Air Quality Analysis - COSIM

The Illinois COSIM (Carbon Monoxide Screen for Intersection Modeling) project is a Windows based screening model used by IDOT staff for determining worst-case carbon monoxide (CO) concentrations at signalized intersections throughout the state. Emissions from vehicles that travel through or sit idle at

an intersection can build up and result in atmospheric CO concentrations that may exceed National Ambient Air Quality Standards (NAAQS). COSIM incorporates the use of USEPA's mobile and CAL3QHC models.



Readily available data is used in the model to estimate CO levels for IDOT projects. COSIM screens out the projects that have CO concentrations well below the standards. This is a valuable tool as it will show inexpensively if a more detailed air quality analysis is necessary.

U.S. Route 20 Improvement Project - Public Involvement

In order to assure appropriate response to concerns voiced during the study of the 47-mile U.S. Route 20 Improvement Project, IDOT initiated public dialogue by facilitating the development of an Advisory Council and five regional Work Groups. The Work Groups were made up of local citizens to discuss issues affecting the following areas:

- agriculture
- economic development
- environment
- government
- tourism

A variety of communication techniques and levels of dialogue were used to bring regional values into focus for the citizens of JoDaviess and Stephenson Counties. These included county-wide public information meetings, Work Group and Advisory Council meetings and small working sessions, IDOT staff meetings with interest groups, a U.S. Route 20 newsletter and Citizen's Guide, press releases and media interviews, local information repositories and kiosks and a toll-free 800-telephone number.

Educational Poster Series

Partial funding has been provided to the Illinois Department of Natural Resources, Division of Education, to develop an Illinois species poster series. Featured in the series are:



- Mussels
- Frogs and toads
- Moths and butterflies
- Snakes
- Turtles
- Salamanders

Each series features color photos, information on the classification and anatomy, reproduction, habitat and diet, conservation practices, as well as a glossary and bibliography. The target audience is school groups of all ages.



Roadside Programs

Corridors for Tomorrow - This comprehensive native grass and wildflower establishment program was initiated in 1993. The goal is to establish wildflower and native grass plantings along roadsides at interchanges, rest areas and state entrances where sufficient room exists, and to educate the public about native plantings on the roadside.

Litter Programs - IDOT litter programs include cooperative agreements with state and local agencies for litter pickup along state highways, with the exception of interstate highways. Through Adopt-A-Highway, a community involvement program, 2,400 miles of state highways have been kept clean by volunteers. IDOT provides safety training for the volunteers, highway signs, high-visibility safety vests and garbage bag pickup. In addition, recycling stations have been placed at interstate rest areas for the convenience of the traveling public and to try to deter roadside littering.

Groundwater Protection Areas - IDOT works with the Illinois Environmental Protection Agency (IEPA) to produce and install signage identifying the Groundwater Protection Areas that intersect

with highways. These areas are enrolled in an IEPA program that identifies the 2 year catchment area, or drainage basin, of municipal wells located on geologic areas sensitive to groundwater contamination.



GIS Coverages

In order to streamline various projects, IDOT provides funding to the Natural Resources Conservation Service (NRCS) and Illinois State Geological Survey (ISGS) to complete GIS information coverage. Geographic Information Systems (GIS) are computer-based systems that store, update, analyze and manipulate geographically referenced information to use for various applications, such as planning. GIS coverages currently under study include:

- county soil maps,
- mined areas,
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites, and
- 1938 aerial photos.

The information for each topic is transferred to a compact disk and provided to survey staff to aid in project work.

Oak Forest Flatwoods Management

This project consisted of the management of a



southern flatwoods owned by IDOT and is adjacent to an Interstate rest area. Through prescribed burning, via partnership with the Illinois Department of Natural Resources, the diversity of plants that occur in the woods has increased. Burning adds nutrients back to the soil for seedlings and also discourages fire-sensitive, shade-tolerant, mesophytic native plant species and exotic plant species, the presence of which can lead to lower plant diversity. Significant habitat diversity may enable the area to attain the habitat quality of a dedicated Illinois Nature Preserve.

ILLINOIS STATE LIBRARY



Park Roads Program

The Park Roads Program is a joint program involving the Illinois Department of Transportation (IDOT), Illinois Department of Natural Resources (IDNR) and Illinois Historic Preservation Agency (IHPA). Through a signed joint agreement IDOT provides a total of \$9 million a year to be used by IDNR and IHPA to improve access and internal roads serving their sites. The funds are strictly State



funds and cover a multitude of improvements, such as:

- Design and construction of new roadways and parking lots
- Resurfacing of existing access, internal roads and existing parking areas
- Landscaping
- Signage
- Lighting
- Handicap accessibility issues
- Bridges and culverts
- Security and safety
- Campground improvements

The projects are done on a yearly basis with IDNR

and IHPA submitting a list of projects to IDOT. IDOT acts as a consultant by planning and designing the project plans. Once the plans have been contracted, IDOT continues its involvement by overseeing the projects through the construction phase on to completion. Interaction among all agencies involved is maintained throughout the project to assure a well designed project that meets the needs of the public.

For More Information...

For more information about environmental initiatives for IDOT projects, contact:

Illinois Department of Transportation
Bureau of Design and Environment
Environment Section
2300 South Dirksen Parkway
Springfield, Illinois 62764
217/782-4770

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